

PRODUCTION OF FLUORENONE

Patent Number: JP7082206
Publication date: 1995-03-28
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Requested Patent: ☐ JP7082206
Application Number: JP19930228389 19930914
Priority Number(s):
IPC Classification: C07C49/675; B01J31/02; C07C45/36; C07C45/80
EC Classification:
Equivalents:

Abstract

PURPOSE:To improve the production process for fluorenone by oxidizing fluorene dispersed in a mixture of aqueous sodium hydroxide and an organic solvent immiscible with water with molecular oxygen in the presence of a quaternary ammonium salt.

CONSTITUTION:An organic solvent having 80 to 150 deg.C standard boiling point such as toluene is used to effect oxidation reaction at a temperature lower than 100 deg.C so that the water vaporized during the oxidation reaction is accompanied by the exhaust gas after and removed out of the reactor. The oxidation reaction is accelerated and the reaction mixture can readily be separated into the oil phase and the aqueous phase and the recovered sodium hydroxide solution can be reused without concentration and the consumption of the catalyst can be saved. The product can readily be separated from the solvent by single distillation.

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ACCESSION NUMBER: 1995:650431 CAPLUS

DOCUMENT NUMBER: 123:82971

TITLE: Preparation of **fluorenone** from
fluorene

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SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 07082206	A2	19950328	JP 1993-228389	19930914
PRIORITY APPLN. INFO.:			JP 1993-228389	19930914
OTHER SOURCE(S):		CASREACT 123:82971		

AB **Fluorenone** (I) is prepared by blowing mol. O to **fluorene**
(II)-containing materials at $\leq 100^{\circ}$ in the presence of quaternary
ammonium salts in a heterogeneous system containing aqueous alkali solns. and
H₂O-immiscible organic solvents with b.p. 80-150 $^{\circ}$ with removing
resulting H₂O by accompanying exhaust gases used in the reaction. The
alkali solns. can be separated from the reaction mixts. and recycled. Diluted
air was introduced to a mixture of II-containing oil, MePh, aqueous 40% NaOH,
and

Quartamin D 86P (**distearyldimethylammonium chloride**)
at 50 $^{\circ}$ with removing the air and H₂O to give 95% I.